

# Split

Little Petar has been put in charge of maintaining an unpredictable array of strings. Initially, all of the array elements were the same string  $S$ , but the array is prone to change; and there is exactly one kind of change that may happen. This is a **split** operation at a given location,  $X$ ; after it is performed, the location  $X$  maintains the string it had before, however all fields to the left and all fields to the right of  $X$  containing the same string as  $X$  will be given new strings,  $S_1$  and  $S_2$ .

At certain points in time, Petar will be asked to give the string at a given location. He asked you for help.

## Input

The first line of the standard input contains two numbers,  $N$  and  $Q$ , the size of the array and the total number of operations and queries, respectively.

The second line contains the string  $S$ , the string initially contained within each location of the array.

The following  $Q$  lines contain the description of either an operation or a query:

A split operation is represented as "SPLIT  $X$   $S_1$   $S_2$ ", implying that the fields to the left of  $X$ , containing the same string as at  $X$ , will from now on have the string  $S_1$ , and fields to the right will have the string  $S_2$ .

A query is represented as "QUERY  $X$ ", implying that Petar is asked to give the string at location  $X$ .

## Output

For each QUERY command given, output a new line containing the string currently located on the given position.

## Example

### Input:

```
6 6
picseL
SPLIT 3 petarv duxserbia
SPLIT 5 sasav nikolaj
QUERY 1
QUERY 3
QUERY 5
QUERY 6
```

### Output:

```
petarv
picseL
duxserbia
nikolaj
```

## Explanation

Initially, the string `picxel` is located throughout the array. After the first and second split operation, respectively, the array looks as follows:

```
[petarv, petarv, picxel, duxserbia, duxserbia, duxserbia]
```

```
[petarv, petarv, picxel, sasav, duxserbia, nikolaj]
```

The answers to the queries then clearly follow from the final state of the array.

## Constraints

- $1 \leq N, Q \leq 10^5$
- $1 \leq X \leq N$
- $1 \leq |S|, |S_1|, |S_2| \leq 50$
- The strings will consist solely of lowercase letters of the English alphabet.
- All strings appearing in the operations will be unique.